



National Weather Service

Storm Data and Unusual Weather Phenomena



July 2003

July 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Crops	Character of Storm
LAKE MICHIGAN									
LMZ645	North Pt	Lt To	Wind Pt	Wi					
Milwaukee Harbor	04	0545CST			0	0			Marine Tstm Wind (MG37)
LMZ646	Wind Pt	Lt Wi To	Winthrop	Hbr II					
Kenosha	04	0546CST			0	0			Marine Tstm Wind (MG47)
LMZ645	North Pt	Lt To	Wind Pt	Wi					
Milwaukee Harbor	04	0620CST			0	0			Marine Tstm Wind (MG38)
LMZ643	Sheboygan	To Pt	Washington	Wi					
Sheboygan	04	0628CST			0	0			Marine Tstm Wind (MG46)
LMZ645	North Pt	Lt To	Wind Pt	Wi					
Milwaukee Harbor	04	0630CST			0	0			Marine Tstm Wind (MG37)
LMZ646	Wind Pt	Lt Wi To	Winthrop	Hbr II					
Kenosha	04	0635CST			0	0			Marine Tstm Wind (MG48)
A line of severe thunderstorms moved east across southern Wisconsin and then across the adjacent Lake Michigan waters; weakening with time. Powerful, downburst, straight-line winds were the primary effect									
LMZ646	Wind Pt	Lt Wi To	Winthrop	Hbr II					
Kenosha	08	0825CST			0	0			Marine Tstm Wind (MG35)
An isolated thunderstorm briefly pulsed and produced strong wind gusts.									
LMZ646	Wind Pt	Lt Wi To	Winthrop	Hbr II					
Kenosha	15	0245CST			0	0			Marine Tstm Wind (MG35)
LMZ645	North Pt	Lt To	Wind Pt	Wi					
Wind Point	15	0251CST			0	0			Marine Tstm Wind (EG43)
LMZ665	Lm Sheboygan	Wi To	Winthrop Harbor	II Ewd Byd 5Nm To Mid Line Of Lake					
37 ENE Winthrop Harbo	15	0600CST			0	0			Marine Tstm Wind (MG34)
A line of severe thunderstorms, after raking parts of south-central and southeast Wisconsin with damaging straight-line wind gusts estimated to 65 knots (75 mph), continued out over the adjacent Lake Michigan waters, but weakened with time.									
LMZ643	Sheboygan	To Pt	Washington	Wi					
Sheboygan	30	2142CST			0	0			Marine Tstm Wind (MG53)
A thunderstorm cluster quickly pulsed up just west of city of Sheboygan, and then moved east/northeast out over the adjacent Lake Michigan waters. Powerful, downburst, straight-line winds were the primary effect before the storms diminished in strength.									
LMZ643	Sheboygan	To Pt	Washington	Wi					
Sheboygan	31	1527CST			0	0			Marine Tstm Wind (MG44)
A thunderstorm cell in a short line of storms pulsed to severe weather limits and generated strong wind gusts up to 44 knots (51 mph) as it moved out over the waters of Lake Michigan east of Sheboygan County. The storms were related to a closed upper-level low pressure system moving slowly southeast through the region									
WISCONSIN, Southeast									
Sauk County									
Plain	04	0405CST			0	0	1K		Thunderstorm Wind (EG52)
Sauk County									
5 NE Merrimac	04	0425CST			0	0			Thunderstorm Wind (EG52)
Jefferson County									
2 E Watertown	04	0500CST			0	0			Thunderstorm Wind (EG56)
Waukesha County									
Waukesha	04	0550CST			0	0			Thunderstorm Wind (MG55)



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WISCONSIN, Southeast

			0610CST						
Milwaukee County									
3 E Timmerman Arpt to 5.7 SE Timmerman Arpt	04	0610CST			0	0			Thunderstorm Wind (MG60)
Dane County									
Mt Horeb to Mc Farland	04	0617CST 0625CST			0	0			Thunderstorm Wind (EG56)
Milwaukee County									
Brown Deer to Fox Pt	04	0625CST 0630CST			0	0	3K		Thunderstorm Wind (EG56)
Racine County									
1.5 N Caledonia to 4 NW Wind Pt	04	0626CST 0635CST			0	0			Thunderstorm Wind (EG52)
Waukesha County									
2.6 SE Eagle	04	0640CST			0	0	5K		Thunderstorm Wind (EG56)

A broken line of thunderstorms, some severe, moved east across south-central and southeast Wisconsin during the pre-dawn hours of July 4, 2003. This was the first of 5 consecutive days with some severe convection. In general, downburst, straight-line wind gusts of 50 to 60 knots (58 to 69 mph) were the cause of scattered reports of toppled large trees and power lines. All other locations had gusts to at least 39 to 48 knots (45 to 55 mph) as the storms moved east. In the city of Milwaukee (Milwaukee Co.) a tree was pushed onto a home, resulting in minor damage. Likewise, southeast of Eagle (Waukesha Co.) the powerful thunderstorm winds pushed a tree onto a home's roof, resulting in minor damage. In addition, thunderstorm winds pushed a tree onto a home in Plain (Sauk Co.), resulting in minor damage. The storm moved east out over the Lake Michigan waters, but gradually weakened. Newspaper reports indicated that at least 45,000 customers in southeast Wisconsin lost power for several hours, while at least 9000 customers in south-central Wisconsin had a similar experience due to tree debris knocking down power-lines.

Green County									
4.5 WNW Monroe	05	0215CST			0	0			Thunderstorm Wind (EG52)
Dane County									
5 SW Madison	06	0615CST			0	0			Hail(0.88)
Dane County									
Middleton to Maple Bluff	06	0620CST 0640CST			0	0	30K		Thunderstorm Wind (EG65)
Rock County									
Janesville	06	0637CST			0	0			Thunderstorm Wind (EG52)
Dane County									
5 SSE Sun Prairie	06	0650CST			0	0			Thunderstorm Wind (EG52)
Dane County									
Middleton	06	0715CST			0	0	10K		Lightning
Waukesha County									
Waukesha to 4 S Waukesha	06	0805CST			0	0			Thunderstorm Wind (MG56)
Racine County									
2 E Sturtevant	06	1140CST			0	0	1M		Lightning



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Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
					Killed	Injured	Property Crops	
<u>WISCONSIN, Southeast</u>								
Rock County								
1 W Clinton	06	1358CST			0	0		Hail(0.75)
Rock County								
1 W Clinton	06	1358CST			0	0	5K	Thunderstorm Wind (EG65)
Walworth County								
Delavan	06	1405CST			0	0		Hail(0.75)
Walworth County								
Delavan	06	1405CST			0	0		Thunderstorm Wind (EG52)
Racine County								
Burlington	06	1430CST			0	0		Thunderstorm Wind (EG52)
Walworth County								
3 SSE East Troy	06	1430CST			0	8		Lightning
Kenosha County								
Silver Lake	06	1440CST			0	0		Thunderstorm Wind (EG52)
Kenosha County								
Kenosha	06	1505CST			0	0		Thunderstorm Wind (EG52)
Fond Du Lac County								
4.1 SSW Campbellsport	06	1543CST	0.1	25	0	0		Tornado (F0)
This tornado spun up at a location about 4.1 miles south-southwest of Campbellsport (Fond du Lac Co.) , or about 50 yards north and 1/3 mile east of the intersection of County Highway BB and St. Kilian Dr. It quickly moved east-southeast, and didn't result in an property damage in Fond du Lac County. It proceeded for about two-thirds of a mile into Washington County where it damaged 3 homes.								
Dodge County								
1.2 NW Horicon	06	1605CST	0.1	25	0	0		Tornado (F0)
A brief, weak tornado spun up on the edge of the Horicon Marsh, northwest of the city of Horicon, resulting in only minor vegetative damage.								
Dodge County								
1 W Kekoskee	06	1615CST	0.1	25	0	0		Tornado (F0)
A brief, weak tornado spun up over the eastern edge of the Horicon Marsh and west of Kekoskee (just west of Rockvale Rd.), resulting in only minor vegetative damage.								
Washington County								
2 N Wayne to 2 NE Wayne	06	1643CST 1645CST	0.7	40	0	0	20K	Tornado (F1)
This tornado initially spun up in adjacent Fond du Lac County, and entered Washington County at a point 2.0 miles north of Wayne, about 1/3 mile east of the intersection of County Highway BB and St. Kilian Dr. It moved east-southeast and damaged 3 homes in Washington County. Damage to windows, a garage, some siding, and a roof was noted. Maximum wind speeds were estimated at 70 knots (80 mph), or at the bottom of the F1 rating. It dissipated at a location 2.0 miles north-northeast of Wayne, just east of Lake Benice Dr. There were no injuries or deaths.								
Dodge County								
1.6 ESE Theresa	06	1647CST	0.1	25	0	0		Tornado (F0)
A brief, weak tornado spun up east-southeast of Theresa, in a marsh east of West Bend Rd., resulting in only minor vegetative damage.								
Washington County								
3 NE West Bend	06	1651CST			0	0		Funnel Cloud
Waukesha County								
Okauchee	06	1700CST 1900CST			0	0		Heavy Rain



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		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Persons Injured	Property	Damage Crops	

WISCONSIN, Southeast

Two rounds of scattered severe convection affected south-central and southeast Wisconsin on Sunday, July 6, 2003. The first round occurred during the morning hours and the second during the late afternoon hours. Powerful, downburst, damaging, straight-line winds toppled large trees and/or power-lines, 4 weak tornadoes spun up, a separate funnel cloud was reported, and there were a couple occurrences of large hail. Detailed descriptions of the four tornadoes can be found in separate reports.

Probably the hardest-hit area extended from Middleton (Dane Co.) to Maple Bluff. In the Maple Bluff area, 8 homes sustained minor wind damage, and a car and two boats were damaged by toppled trees or large branches during the morning round. Wind gusts in the Maple Bluff area were estimated to briefly reach 65 knots (75 mph). Lightning struck a home in Middleton, resulting in a roof/attic fire. Near Clinton (Rock Co.) the powerful winds pushed a large tree on a home, resulting in minor damage. At the Alpine Ski Resort south-southeast of East Troy (Walworth Co.), lightning struck a man holding a tent metal pole, resulting in serious injuries. The bolt injured 7 other, adjacent individuals who were standing in ankle deep water. Six of the eight people were hospitalized. Near Sturtevant (Racine Co.) an apartment complex sustained major damage due to a lightning fire. Heavy rains of 1.5 inches resulted in minor urban-type flooding in the Okauchee (Waukesha Co.) area. All together, at least 3000 customers lost electrical power due to tree limbs falling on power-lines or lightning strikes. Synoptically, an upper level low pressure system and vorticity maximum moved east-southeast through the Dodge County area, resulting in bands of thunderstorms. The tornadoes occurred near the low pressure center where large-scale atmospheric circulation allowed for rotating updrafts in a few thunderstorm.

This was the 3rd of five consecutive days with some kind of severe convection across south-central and/or southeast Wisconsin. Synoptically, a series of short wave troughs in the upper atmosphere moved east across Wisconsin while a surface frontal boundary oscillated north and south across southern Wisconsin.

Iowa County

2.5 N Clyde

07 0410CST 0 0 Hail(0.75)

An isolated thunderstorm briefly pulsed to severe weather limits, producing large hail. This was the 4th consecutive day with some kind of severe weather in south-central and/or southeast Wisconsin

Lafayette County

**3 SW Benton to
4 NNE Leadmine**

**08 0612CST 0 0 Thunderstorm Wind (EG56)
0616CST**

Rock County

Beloit

08 0640CST 0 0 3K Lightning

Scattered thunderstorms affected the south-central part of Wisconsin during the morning hours. One of them briefly pulsed to severe weather limits, and produced downburst, straight-line winds that toppled large trees near Benton (Lafayette Co.). Wind gusts were estimated to be 56 knots (65 mph). Lightning struck a power transformer on the west side of Beloit, resulting the loss of electricity to dozens of homes and some schools for a few hours. July 8, 2003, was the 5th consecutive day with some kind of severe weather in south-central and/or southeast Wisconsin. Synoptically, a frontal boundary was located from southern Iowa through central Illinois. Warm-air advection and a vorticity lobe triggered the storms.

Iowa County

4 SSW Barneveld

11 1400CST 0 0 5K Hail(0.75)

A pre-dawn thunderstorm pulsed to severe weather limits as it moved south-southeast through eastern Iowa County. It dumped enough hail to result in corn crop damage on two farms. Synoptically, there was leftover cold air and northwest flow aloft.



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					Killed	Injured	Property	Crops	
<u>WISCONSIN, Southeast</u>									
Rock County									
Beloit	15	0000CST 0200CST			0	0			Heavy Rain
Dodge County									
Randolph to 8 SW Richwood	15	0015CST 0045CST			0	0	50K		Thunderstorm Wind (EG56)
Columbia County									
Columbus	15	0030CST			0	0			Thunderstorm Wind (EG56)
Dane County									
3 S Madison to Albion	15	0035CST 0105CST			0	0			Thunderstorm Wind (EG52)
Jefferson County									
Waterloo to 2 SE Palmyra	15	0045CST 0125CST			0	0	175K		Thunderstorm Wind (EG65)
Jefferson County									
Watertown	15	0100CST			0	1			Lightning
Rock County									
Evansville to 5 SE Clinton	15	0105CST 0140CST			0	0	2K		Thunderstorm Wind (EG56)
Waukesha County									
Oconomowoc to Muskego	15	0115CST 0200CST			0	0			Thunderstorm Wind (EG61)
Jefferson County									
1.8 NW Palmyra	15	0120CST			0	0	2K		Lightning
Walworth County									
Whitewater to Genoa City	15	0120CST 0205CST			0	0			Thunderstorm Wind (EG56)
Racine County									
Burlington	15	0205CST			0	0			Thunderstorm Wind (EG52)
Kenosha County									
2 W New Munster	15	0210CST			0	0			Thunderstorm Wind (EG52)
Kenosha County									
3.4 W Kenosha	15	0215CST			0	0	35K		Lightning

Clusters of thunderstorms over central Wisconsin merged and strengthened into a broad line as they moved southeast through south-central and southeast Wisconsin during the pre-dawn hours of July 15, 2003. Powerful downburst, straight-line winds gusting to an estimated 65 knots (75 mph) resulted in tree, power-line, and structural damage primarily from southeastern Columbia through parts of Dodge, Jefferson, Waukesha, Rock, Walworth, Racine, and Kenosha Counties. Associated, brief, intense rains lowered visibilities to less than 50 yards, leading to minor ponding of water in low spots as well. In southwestern Dodge County, a church and 6 homes sustained tree debris damage. In Jefferson County, where the storms were the most intense, there were many reports of toppled trees and powerlines, especially in the cities of Watertown and Fort Atkinson. Several homes and vehicles in both cities sustained tree debris damage. In Fort Atkinson, 24 power-line poles were toppled by tree debris, resulting in the loss of electricity to 5800 customers in the area. In the village of Sullivan, the hurricane-force winds managed to enter the attic of a church through a vent, resulting in part of the roof exploding outward. Northwest of Palmyra, a pivot irrigation system on a large vegetable farm was flipped over and damaged. Nearby lightning struck a power-line leading to a current surge into a home which resulted in electrical damage. A Watertown woman was injured after being struck by lightning. As the storms moved through Waukesha their powerful winds flipped over a semi-tractor on Interstate 94 just south of Delafield. In addition, the winds pushed a tree onto a van in Beloit, resulting in minor damage. West of the city of Kenosha (Kenosha Co.), three, parked, semi-tractors were severely damaged due to a lightning fire. The storms weakened as they moved southeast over the Lake Michigan waters. All together, 11,500 customers lost electricity for several hours due to the storms, primarily in the counties of Jefferson, Waukesha, and Rock.



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WISCONSIN, Southeast

Green Lake County

Berlin to 4 SE Berlin	20	1528CST 1532CST			0	0			Thunderstorm Wind (EG52)
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Fond Du Lac County

Rosendale	20	1550CST			0	0			Thunderstorm Wind (EG52)
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Fond Du Lac County

3.5 NNW Lamartine	20	1557CST			0	0			Hail(0.75)
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A cluster of storms pulsed up to severe weather limits as it moved southeast through the northeastern part of Green Lake County through the western part of Fond du Lac County. Powerful, downburst, straight-line winds gusting to estimated 52 knots (60 mph) toppled large trees. Some large hail was noted as well. Synoptically, a short-wave aloft moved east across southern Wisconsin as a low-level cap/inversion broke due to daytime heating.

Jefferson County

Watertown	30	1349CST			0	0			Thunderstorm Wind (MG50)
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Waukesha County

3 NE Wales to 1.5 NE Wales	30	1600CST 1800CST			0	0			Heavy Rain
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Waukesha County

1.5 NNW Elm Grove	30	1630CST			0	0			Thunderstorm Wind (MG54)
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Sheboygan County

Sheboygan	30	2100CST 2359CST			0	0			Heavy Rain
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Clusters or short lines of storms developed during the afternoon heating over southeastern Wisconsin. Some of them briefly reached severe weather limits. Powerful, downburst winds measured to 50 to 54 knots (58 to 62 mph) toppled some large trees in Watertown (Jefferson Co.) and in Elm Grove (Waukesha Co.). Training of back-building thunderstorm cells northeast of Wales (Waukesha Co.) resulted in WSR-88 Doppler radar rainfall estimates of 3 to 4 inches. Law enforcement reports indicated that water covered a couple low-lying roads in the area northeast of Wales. Likewise, a radar-estimated two to three inches of rain fell on the city of Sheboygan (Sheboygan Co.), resulting in water-over-the-curb, urban-type flooding.

Marquette County

2 NW Oxford	31	1150CST			0	0			Hail(0.75)
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Iowa County

6 W Avoca	31	1300CST			0	0			Hail(1.00)
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Sheboygan County

4 NE Howards Grove	31	1304CST 1308CST			0	0			Hail(1.00)
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Fond Du Lac County

2.3 S Ripon	31	1314CST			0	0			Thunderstorm Wind (EG56)
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Fond Du Lac County

1.5 SW Ladoga to 1.5 E Oakfield	31	1340CST 1352CST			0	0	20K		Thunderstorm Wind (EG56)
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Iowa County

2 S Dodgeville to Hollandale	31	1356CST 1410CST			0	0			Hail(0.75)
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Green County

3 NW New Glarus	31	1434CST			0	0			Hail(0.75)
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Rock County

1 E Orfordville	31	1543CST			0	0			Hail(0.75)
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Jefferson County

3.7 SE Sullivan	31	1653CST			0	0			Hail(0.75)
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					Killed	Injured	Property	Crops	

WISCONSIN, Southeast

Waukesha County

4.2 NW Eagle	31	1705CST			0	0			Hail(1.00)
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Walworth County

3.8 NNE East Troy to 3.8 NNE East Delavan	31	1735CST			0	2			Lightning
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Several short lines, or spokes of thunderstorms moved southeast across south-central and southeast Wisconsin during the afternoon and early evening hours. Powerful, downburst, straight-line winds estimated to 56 knots (65 mph) toppled large trees, power-lines, and in one case, leveled some crops. Large hail was also observed. In Fond du Lac County, corn and soybean crop damage occurred between State Highway 26 and County Trunk Highway TC, southwest of Ladoga. Synoptically, an upper-level low pressure moved southeast through Wisconsin. Afternoon heating with cool air aloft allowed for the development of strong updrafts that lead to some of the thunderstorm cells becoming severe.